

Navy Shipboard Fiber Optic Recommended Components Parts List

COVER LETTER

[Click here to view the Navy Recommended Components Parts List cover letter.](#)

PURPOSE

The purpose of the Navy Recommended Fiber Optic Components Parts List is to provide updated information on the Navy recommended fiber optic components program. This program provides assistance to those involved in the immediate procurement or use of reliable and survivable fiber optic components for shipboard applications and encourages standardization leading to increased and effective logistical support.

The Navy Recommended Fiber Optic Components Parts List includes recommended qualified components (from those listed on the Qualified Products List - QPL), those presently being tested with sufficient results available to be recommended, recommended First Article components/materials, those approved to Commercial Item Descriptions, and recommended COTS fiber optic components.

QUICK REFERENCE BY COMPONENT

[QPL And First Article Fiber Optic Components](#)

[Commercial Fiber Optic Components](#)

[Commercial Blown Optical Fiber Components](#)

[Equipment And Kits For Fiber Optic Components](#)

QUICK REFERENCE BY VENDOR

[Previous Navy Recommended Components Parts List Archive](#)
[1 April 1998 \(59 pgs, 169k\)](#)

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NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 08 December 2021

QPL AND FIRST ARTICLE FIBER OPTIC COMPONENTS [TOP](#)

Click on vendor name to go to detailed information for each component

| COMPONENT | VENDOR |
|--|--|
| Conventional Cable – Thermoset (QPL) | Draka |
| | General /a |
| | Marmon |
| Conventional Cable –Thermoplastic (QPL) | General /a |
| Blown Optical Fiber Cable – Thermoset (QPL) | General /a |
| Single Tube Cable, Blown Optical Fiber | General /a |
| ST Connector (QPL) | AFSI |
| | Delphi |
| | Optical Cable Corporation |
| ST-to-ST Adapter (QPL) | AFSI |
| | Optical Cable Corporation |
| Multiterminus (MT) Heavy Duty Connector (QPL) | Delphi |
| | AFSI |
| | Glenair |
| Termini (QPL) | AOS |
| | Aptiv |
| | AFSI |
| | Glenair |
| Epoxy, Heat Cured (1 st Article) | CommScope |
| | OFS |
| | Tra-Con |
| | FOCI |
| Interconnection Box (QPL) | US Pioneer ¹ /a |
| Optical Fiber – Multimode (QPL) | Corning |
| | Draka USA |
| | General Cable |
| Optical Fiber – Single mode (QPL) | Corning |
| | Draka USA |
| | General Cable |
| Index Matching Material (1 st Article) | Nye Lubricants |
| Transmitter and Receiver (1 st Article) | Laser Diode |

¹ Formerly NMP.

/a Per qualifying activity - STOP SHIPMENT IN PLACE.
See QPD for latest information.
<https://qpldocs.dla.mil/>



NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 05 June 2020

COMMERCIAL FIBER OPTIC COMPONENTS [TOP](#)

Click on vendor name to go to detailed information for each component

| COMPONENT | VENDOR |
|--------------------------------|---|
| ST Connector, MM | CommScope |
| | AFSI |
| | STRAN |
| | OFS |
| | TE Connectivity |
| ST-to-ST Adapter, MM | CommScope |
| | AFSI |
| | STRAN |
| | OFS |
| ST Connector, SM | CommScope |
| | AFSI |
| | STRAN |
| | OFS |
| ST-to-ST Adapter, SM | CommScope |
| | AFSI |
| | STRAN |
| | OFS |
| SC Connector, MM | TE Connectivity |
| | CommScope |
| SC-to-SC Adapter, MM | CommScope |
| SC Connector, SM | TE Connectivity |
| | CommScope |
| SC-to-SC Adapter, SM | CommScope |
| LC Connector, MM | AFL |
| | OFS |
| | TE Connectivity |
| LC-to-LC Adapter, MM | OFS |
| LC Connector, SM | AFL |
| | OFS |
| | TE Connectivity |
| LC-to-LC Adapter, SM | OFS |
| Fast Cure Adhesive, Commercial | CommScope |
| | FOCI |
| | OFS |
| Cable, Commercial | CommScope |
| | Draka |
| | General Cable |
| | Optical Cable Corporation |
| Optical Bypass Switch (2 X 2) | Litton Network Access Systems |
| Splice, Fusion Shelf/Tray | Hubbell |

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 26 February 2013

COMMERCIAL BLOWN OPTICAL FIBER COMPONENTS [TOP](#)

Click on vendor name to go to detailed information for each component

| COMPONENT | VENDOR |
|---|--------------------------------------|
| Tube Fitting, Blown Optical Fiber (straight tube coupler) | Sumitomo |
| | SMC |
| | General Cable |
| Tube Fitting, Blown Optical Fiber (tube tee coupler) | Sumitomo |
| | SMC |
| | General Cable |
| Tube Fitting, Blown Optical Fiber (tube end cap) | Sumitomo |
| | SMC |
| | General Cable |
| Tube Fitting, Blown Optical Fiber (straight tube coupler reducer) | General Cable |
| Plug, Tube Fitting, Blown Optical Fiber | SMC |
| | General Cable |
| Plug, Tapered Tube, Blown Optical Fiber | Sumitomo |
| | Connective Solutions |
| Furcation Unit, Tube, Blown Optical Fiber | Connective Solutions |
| | Kitco Fiber Optics |
| Tube, Single, Blown Optical Fiber | General Cable |
| | Sumitomo |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 09 June 2016

EQUIPMENT AND KITS FOR FIBER OPTIC COMPONENTS [**TOP**](#)

Click on vendor name to go to detailed information for each component

| COMPONENT | VENDOR |
|---|--|
| ST/SC Connector Termination Kit | KitCo |
| | AFSI |
| Rotary Mechanical Splice Termination Kit | KitCo |
| Multiterminus (MT) Heavy Duty Connector Termination Kit | KitCo |
| | AFSI |
| FDDI Connector Tools (Supplement to ST Termination Kit) | KitCo |
| SC Connector Tools (Supplement to older ST Termination Kit) | KitCo |
| Submarine Combination ST, SC and MT Termination Kit | KitCo |
| | AFSI |
| Fusion Splice Kit | AFL Telecommunications |
| | Sumitomo |
| Damage Control Kit | KitCo |

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 20 October 2021

COMPONENTS BY VENDOR [TOP](#)

Click on vendor name to go to detailed information for each component

| Vendor | Component | Specification/Drawing |
|---|---|-----------------------|
| AFL Telecommunications | Fusion Splice Kit / Cleaver Kit | A-A-59799 |
| | LC Connector, Commercial | A-A-59940/1 |
| Applied Optical Systems, Inc. | Termini | MIL-PRF-29504 |
| CommScope | ST Connector, Commercial | A-A-59940/3 |
| | ST Connector Adapter, Commercial, Ruggedized | N/A |
| | SC Connector, Commercial | A-A-59940/2 |
| | SC Connector Adapter, Commercial | N/A |
| | Epoxy | MIL-PRF-24792 |
| | Fast Cure Adhesive, Commercial | N/A |
| | Cable, Conventional, Commercial | N/A |
| Connective Solutions | Furcation Units, Tube, BOF | A-A-59729 |
| | Plug, Tapered Tube, BOF | A-A-59730 |
| Corning | Fiber, Multimode | MIL-PRF-49291/6 |
| | Fiber, Single Mode | MIL-PRF-49291/7 |
| APTIV (Delphi Connection Systems) | Multiterminus (MT) Heavy Duty Connector & Dust Cover | MIL-PRF-28876 |
| | Termini | MIL-PRF-29504 |
| | ST Connector | MIL-C-83522/16 |
| Draka | Cable, Conventional – Thermoset | MIL-PRF-85045 |
| | Cable, Conventional, Commercial | N/A |
| | Fiber, Multimode | MIL-PRF-49291/6 |
| | Fiber, Single Mode | MIL-PRF-49291/7 |
| | Cable | MIL-PRF-85045/16 |
| Draka Comteq USA, Inc. | Fast Cure Adhesive, Commercial | N/A |
| FOCI | Epoxy | MIL-PRF-24792 |
| AFSI | ST Connector Adapter | MIL-C-83522/17 |
| | ST Connector, Commercial, Ruggedized | A-A-59940/3 |
| | ST Connector Adapter, Commercial, Ruggedized | N/A |
| | Multiterminus (MT) Heavy Duty Connector | MIL-PRF-28876 |
| | ST/SC Connector Termination Kit | 6872811 |
| | Multiterminus (MT) Heavy Duty Connector Termination Kit | 6872813 |
| | Submarine Combination ST, SC, and MT Termination Kit | 7085185 |
| | Termini | MIL-PRF-29504 |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

| Vendor | Component | Specification/Drawing |
|---|---|------------------------------|
| General Cable | Cable, Conventional –Thermoset | MIL-PRF-85045 /a |
| | Cable, Conventional –Thermoplastic | MIL-PRF-85045 /a |
| | Cable, Blown Optical Fiber – Thermoset | MIL-PRF-85045 /a |
| | Cable, Conventional, Commercial | N/A |
| | Tube fitting (straight coupler), BOF | A-A-59731 |
| | Tube fitting (Tee coupler), BOF | A-A-59731 |
| | Tube Fitting (end cap coupler), BOF | A-A-59731 |
| | Tube Fitting (straight coupler reducer), BOF | A-A-59731 |
| | Plug, tube fitting, BOF | A-A-59728 |
| | Fiber, Multimode | MIL-PRF-49291/6 |
| | Fiber, Single Mode | MIL-PRF-49291/7 |
| Glenair | Termini | MIL-PRF-29504 |
| | Multiterminus (MT) Heavy Duty Connector | MIL-PRF-28876 |
| Hubbell | Splice, Fusion Shelf/Tray | N/A |
| KitCo | ST/SC Connector Termination Kit | 6872811 |
| | Rotary Mechanical Splice Termination Kit | 6872812 |
| | Multiterminus (MT) Heavy Duty Connector Termination Kit | 6872813 |
| | Submarine Combination ST, SC, and MT Termination Kit | 7085185 |
| | Damage Control Kit | 7344573 |
| | FDDI Connector Tools | N/A |
| | SC Connector Tools | N/A |
| | Furcation Units, Tube, BOF | A-A-59729 |
| | Fusion Splice Protector | MIL-PRF-24623/6 |
| | Fusion Splice Tray | MIL-I-24728/8 |
| Laser Diode, Inc. | Transmitter | MIL-M-24791 |
| | Receiver | MIL-M-24791 |
| Litton Network Access Systems | 2X2 Bypass Switch | N/A |
| Marmon | Cable, Conventional –Thermoset | MIL-PRF-85045 |
| Nye Lubricants, Inc. | Index Matching Gel | MIL-PRF-24794 |
| OFS Optics | ST Connector, Commercial | A-A-59940/3 |
| | ST Connector Adapter, Commercial | N/A |
| | LC Connector, Commercial | A-A-59940/1 |
| | LC Connector Adapter, Commercial | N/A |
| | Epoxy | MIL-PRF-24792 |
| | Fast Cure Adhesive, Commercial | N/A |
| Optical Cable Corporation | Cable, Conventional, Commercial | N/A |
| | ST Connector | MIL-C-83522/16 |
| | ST Connector Adapter | MIL-C-83522/17 |
| SMC | Plug, Tube Fittings, BOF | A-A-59728 |
| | Tube fitting (Tee coupler), BOF | A-A-59731 |
| | Tube fitting (straight coupler), BOF | A-A-59731 |
| | Tube fitting (end cap coupler), BOF | A-A-59731 |
| STRAN Technologies | ST Connector, Commercial, Ruggedized | A-A-59940/3 |
| | ST Connector Adapter, Commercial, Ruggedized | N/A |
| Sumitomo | Tube fitting (Tee coupler), BOF | A-A-59731 |
| | Tube fitting (straight coupler), BOF | A-A-59731 |
| | Plug, Tapered Tube, BOF | A-A-59730 |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

| Vendor | Component | Specification/Drawing |
|---|-------------------------------------|-----------------------|
| | Tube Fitting (end cap coupler), BOF | A-A-59731 |
| | Fusion Splice Kit | A-A-59799 |
| | Type-Q101-CA Splicing Kit | A-A-59799-A |
| Tra-Con, Inc. | Epoxy | MIL-PRF-24792 |
| TE Connectivity | SC Connector, Commercial | A-A-59940/2 |
| | LC Connector, Commercial | A-A-59940/1 |
| US Pioneer (formerly NMP) | IC Box | MIL-I-24728 /a |

/a Per qualifying activity - STOP SHIPMENT IN PLACE.
See QPD for latest information.
<https://qpldocs.dla.mil/>



NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 15 March 2021

ITEM: Fusion Splice Protector, Fusion Splice Kit [TOP](#)

MIL-SPEC: MIL-PRF-24623; CID: A-A-59799-A, A-A-59940

VENDOR: AFL Telecommunications (<http://www.afltele.com/index.asp>)

VENDOR GOV'T. SALES POC: Michael Hetrick (410) 937-8048, FAX: (410) 420-6877

Vendor Address: AFL Telecommunications
170 Ridgeview Center
Duncan, SC 29334

| DESCRIPTION | CID P/N | VENDOR P/N |
|---|-----------------------------|------------|
| Commercial Item Descriptions: | | |
| FSM-90S w/S90A Sheath Clamp Optical Fiber Fusion Splicer-w/o cleaver <u>1/</u> , <u>3/</u> <u>8/</u> <u>9/</u> Contents: | A-A-59799-A | S017520 |
| 1 ea-FSM-90S Fusion Splicer | | |
| 1 ea-ADC-20 AC Adapter | | S017513 |
| 1-ea-BTR-15 Battery <u>9/</u> | | |
| 1 ea-ACC-14 AC Cord | | S014536 |
| 1 ea-ELCT2-16B Spare Electrodes (pair) | | S017103 |
| 1 ea-Sheath Clamp | | S017696 |
| 1-ea-SP-03 Fiber Holder Set Plates | | S017518 |
| 1 ea-USB-01 Cable | | S014777 |
| 1 ea-AP-02 Alcohol Dispenser | | S015525 |
| 1 ea-Screw Driver | | S015526 |
| 1 ea-ST-03 Splicer Carrying Strap | | S017549 |
| 1 ea-Quick Reference Guide | | |
| 1-ea-TS-03 Tripod Screws | | S017524 |
| 1-ea-Work Tray J-plate | | S017517 |
| 1 ea-Single Fiber Stripper | | S017098 |
| 1 ea-CC39 Transit Case with Carrying Strap | | S017514 |
| CT-08 Cleaver Kit Contents: | A-A-59799 (Cleaver only) | S017004 |
| 1 ea-CT-08 Fiber Cleaver | | S017004 |
| 1 ea-AD-50 Fiber Adapter | | S017010 |
| 1-ea-Hex Wrench | | |
| 1 ea-Scrap Collector | | S014092 |
| 1 ea-CC-34 Carrying Case | | S017012 |
| FSM-70S w/S70A Sheath Clamp Optical Fiber Fusion Splicer <u>1/</u> , <u>2/</u> , <u>3/</u> Contents: | A-A-59799-A | S015590 |
| 1 ea-FSM-70S Fusion Splicer | | S015580 |
| 1 ea-CT30A Cleaver | | S014080 |
| 1 ea-ADC-18 AC Adapter | | S015585 |
| 1 ea-ACC-14 AC Cord | | S014536 |
| 1 ea-ELCT2-20A Spare Electrodes (pair) | | S013532 |
| 1 ea-S70C Sheath Clamp | | S015586 |
| 1 ea-USB Cable | | S014777 |
| 1 ea-Alcohol Dispenser | | |
| 1 ea-Screw Driver | | |
| 1 ea-Splicer Carrying Strap | | |
| 1 ea-Quick Reference Guide | | |
| 1 ea-Instruction Manual | | |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

| | | |
|---|-------------------|-------------------------|
| 1 ea-CC30 Transit Case with Carrying Strap | | |
| FSM-60S Kit w/S60B Sheath Clamp <u>1/</u> , <u>2/</u> , <u>3/</u> Contents: | A-A-59799-A | S014578 |
| 1 ea - 60S Splicer | | S014531 |
| 1 ea - CT30A Cleaver | | S014080 |
| 1 ea - ADC-13 AC Adapter | | S014535 |
| 1 ea - ACC-14 AC Power Cord | | S014536 |
| 1 ea - JP-05 J-Plate | | S014537 |
| 1 pr - Spare Electrodes | | S013532 |
| 1 ea - Clamp-S60B | | S014551 |
| 1 ea - USB cable | | |
| 1 ea - Splicer Carrying Strap | | |
| 1 ea - Quick Reference Guide | | |
| 1 ea - Instruction Manual | | |
| 1 ea - Transit Case w/ Carrying Strap | | |
| FSM-50S Kit w/Set Plate B Installed <u>1/</u> , <u>2/</u> , <u>3/</u> Contents: | A-A-59799-A | S014490 |
| 1 ea - 50S Splicer | | S013510 |
| 1 ea - CT30A Cleaver | | S014080 |
| 1 ea - Set Plate B (50S) | | S013564 |
| 1 ea - AC Adapter/Battery Charger | | ADC-11 |
| 1 ea - AC Cord | | |
| 1 pr - Spare Electrodes | | |
| 1 ea - Carrying Strap | | |
| 1 ea - Operation Manual | | |
| 1 ea - Transit Case | | |
| Commercial Item Descriptions: | CID P/N | VENDOR P/N |
| Simplex LC connector, quick connect fusion, commercial, Multimode <u>4/</u> <u>5/</u> <u>7/</u> | A-A-59940/1-211SN | FUSE-LC2M62-6 <u>6/</u> |
| Simplex LC connector, quick connect fusion, commercial, Single mode <u>4/</u> <u>5/</u> <u>7/</u> | A-A-59940/1-221SN | FUSE-LC2SMU-6 <u>6/</u> |

1/ This Fusion Splice Kit is not approved for Organizational Level Shipboard Maintenance & Repair.

2/ This Fusion Splice Kit has been tech refreshed and is no longer available for purchase.

3/ COTS splicing unit contains a coin size lithium battery.

4/ For use only with AFL70S IAW CID A-A-59799 with heater settings of 185 deg 75 sec.

5/ For use only with MIL-85045/16-01 or MIL-85045/16-02 cable.

6/ P/N is for one pack of 6 pieces.

7/ SC/LC connectors are not for use with patch panels except as noted below. Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

8/ Test standards submitted for Electromagnetic compatibility (EMC) based on EMC Test Report 12917252M dated July 4, 2019: EMC Immunity: EN5501, EMC Safety: EN61000-6-2, Standard No: 2014/30/EU.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

- /9 Equipment contains a lithium ion rechargeable battery. Procuring activity shall ensure compliance with current version of S9310-AQ-SAF-010, "Navy Lithium Battery Safety Program Responsibilities and Procedures".

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 19 September 2017

ITEM: Termini [TOP](#)

MIL-SPEC: MIL-PRF-29504

VENDOR: Applied Optical Systems, Inc. (AOS a Division of OCC)
(<http://www.appliedopticalsystems.com/>)

VENDOR GOV'T. SALES POC: Lisa Hurley (877) 509-1500 x110
Email: Lisa.Hurley@OCCfiber.com

Vendor Address: Applied Optical Systems, Inc.
1700 Capital Avenue, Suite 50
Plano, TX 75074

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|---|-----------------|---------------|
| Qualified QPL Components: | | |
| Termini, pin, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/14-4131C | TC1440CA |
| Termini, pin, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/14-4141C | TC1440CA |
| Termini, socket, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/15-4171C | TC1541CA |
| Termini, socket, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/15-4181C | TC1541CA |
| Termini, dummy, for MIL-PRF-28876 connectors | M29504/3-4038 | TC0339AA |

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 6 August 2020

ITEM: ST Connectors, Epoxy, Fast Cure Adhesive, Commercial Cable [TOP](#)

MIL-SPEC: MIL-C-83522, MIL-A-24792

VENDOR: CommScope (formerly Avaya) (<http://www.commscope.com/>)

VENDOR GOV'T. SALES POC: Sean Kerr, email: Sean.Kerr@commscope.com

Vendor Address: CommScope Solutions Inc.
1300 East Lookout Dr., Suite 350
Richardson TX 75082

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-------------------|--|
| First Article Approved Material: | | |
| Epoxy, two part, fiber optic, room/heat cured, 15 bipacks <u>1/</u> | M24792-A | 700 006 109 |
| Commercial Item Description | CID P/N | |
| ST connector, 125 micron, MM 4/ | A-A-59940/3-111SN | 700 004 328 |
| ST connector, 125 micron, SM 4/ | A-A-59940/3-121SN | 700 011 067 |
| Simplex SC connector, commercial, 125 um, Multimode, for 3 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/</u> | A-A-59940/2-111SP | 5503948-1 |
| Simplex SC connector, commercial, 125 um, Multimode, for 2.5 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/</u> | A-A-59940/2-111SP | 5504930-1 |
| Simplex SC connector, commercial, 125 um, Multimode, for 2 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/ 12/</u> | A-A-59940/2-111SP | 5504931-1 |
| Simplex SC connector, commercial, 126 um, Single Mode, for 3 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/</u> | A-A-59940/2-121SP | 5504646-1 |
| Simplex SC connector, commercial, 126 um, Single Mode, for 2 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/ 12/</u> | A-A-59940/2-121SP | 5504934-2 |
| Duplex SC connector, commercial, 125 um, Multimode, for 3 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/</u> | A-A-59940/2-111DP | 5504657-1 |
| Duplex SC connector, commercial, 125 um, Multimode, for 2.5 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/ 12/</u> | A-A-59940/2-111DP | 5504927-1 |
| Duplex SC connector, commercial, 126 um, Single Mode, for 3 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/ 12/</u> | A-A-59940/2-121DP | 5504655-1 |
| Approved Commercial Components: | | |
| Fast Cure Adhesive, Fiber Optic <u>2/ 3/</u> | N/A | Adhesive: 700 002 181 Primer: 700 004 146 |
| ST to ST, adapter, MM 4/ | N/A | 700 004 864 |
| ST to ST, adapter, SM 4/ | N/A | 700 011 133 |
| ST to ST, adapter, MM (ruggedized) <u>4/ 5/ 12/</u> | N/A | 105 777 288 |
| Duplex SC to SC adapters, commercial, pull proof <u>8/</u> | N/A | 1-5502776-0 |
| Conventional cable, 2-fiber, commercial LSZH <u>6/ 12/</u> (Systimax Div) | N/A | 700 009 889 |
| Conventional cable, 2-fiber, commercial LSZH <u>6/</u> (Uniprise Div) | N/A | 9000770 (Z-002-DU-6F-F25BK) |

1/ Each bipack contains a pre-measured quantity of resin and hardener separated by a divider. There is 8 gm of resin and hardener per bipack. Expiration date upon ship date: 9 months minimum.

2/ Fast Cure Adhesive Approved for shipboard usage as follows: **Fast cure adhesive is authorized only for administrative applications and is not authorized for use in tactical or mission critical applications.**

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

- 3/ Adhesive: Quantity of one 10 ml bottle. Primer: Quantity of one 1 oz bottle. Expiration date upon ship date, both adhesive and primer: 6 months minimum.
- 4/ Commercial Connectors Approved for shipboard usage as follows:
Tactical Application:
- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
 - Mate with equipment and patch panels mounted to the interior of “shock isolated” cabinets.
- Non-Tactical Application:
- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
 - Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).
- 5/ Ruggedized components constructed using stainless steel material.
- 6/ Commercial Cable Approved for shipboard usage as follows:
Non-Tactical Application:
- Cable connections within a compartment.
 - Cable connections within an equipment or rack.
- 7/ SC/LC connectors are not for use with patch panels except as noted below. Commercial Connectors Approved for shipboard usage as follows:
Tactical Application:
- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
 - Mate with equipment and patch panels mounted to the interior of “shock isolated” cabinets.
- Non-Tactical Application:
- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
 - Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).
- 8/ SC connectors are pull proof connectors designed for loose structured cables. However, with proper care and workmanship these connectors can be installed on tight structured cables.
- 9/ Two configurations for LC and SC connectors. LC and SC connectors are provided in both pull proof and non pull proof configurations. The standard commercial configuration is the pull proof one. A pull proof connector is designed to be used with a loose tube cable. In a pull proof configuration, there is no optical discontinuity at the mating connector end faces when the cabling affixed to one of the connectors is pulled. The non pull proof LC and SC connectors are constructed similar to an ST connector and designed to be used with either loose tube or tight buffer cabling. The spring compresses as the cabling exiting the connector is pulled. This compression removes the ferrule from the mating connector end face. The result is a discontinuous optical path (optical discontinuity) for the duration of the pulled cable.

CAUTION

For pull proof connectors, do not completely backfill an LC or SC connector when terminating to tight buffer cabling. A complete backfill of epoxy can result a locked spring (inability of plunger feature to function) and/or bonded fiber (inability of fiber to push back in the tube/jacket).

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

- 10/ Termination precautions, pull proof connector with tight buffer cabling. A pull proof connector can be placed (terminated) onto tight buffer cabling following a slightly modified (really more careful or precise fill during the) epoxy injection process. The key is not to completely backfill the connector barrel cavity. The syringe tip used aids to control this fill. Instead of a dispensing (syringe) tip, twist on, 20 gage, 1 inch long, blunt end, for epoxy injection into all connector types except SC and LC; a dispensing tip, twist on, 18 gage, 0.5 inch long, chamfered end, for epoxy injection into SC and LC connectors is used. The syringe tip is inserted completely (as in standard process). Care must be taken to completely fill the "cone" (front) portion of the cavity, but do not complete the backfill. The SC and LC connectors have a lip internal to the barrel cavity. An 18 gage syringe tip can be inserted only to this lip. When using proper syringe tip, this restricted insertion allows an epoxy fill up to the lip (filling the front cone or chamfered area) and into/through the ferrule hole. Pressure on the syringe plunger is applied until an epoxy bead appears on the ferrule end face. The correct volume of epoxy is injected once the epoxy bead appears. Withdraw the syringe tip without further injection of epoxy (i.e., without further pressure applied to the syringe plunger).
- 11/ Application affects pull proof connector failure rates. Backfilling of epoxy in a pull proof connector further restricts the degree of fiber flexing. When two connectors are mated through an adapter (such as a LC-to-LC adapter), the plunging movement in each connector is halved. This results in the fiber needing to flex to a lesser degree in the back end of each connector. At a fixed interface (such as at a network interface card or NIC), the connector plunges back further. This results in the fiber needing to flex more. When the termination is not done properly (see note 10/), fiber breakage at the back of the connector can occur. A higher failure rate is more likely at a fixed interface. Also, improperly terminated connectors may fail after surviving the first few times mated.
- 12/ Manufacturer has provided notice of deactivation. (dtd Aug 2020)

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 15 July 2009

ITEM: BOF Tube Furcation Unit [TOP](#)

VENDOR: Connective Solutions (<http://www.connectivesol.com/>)

VENDOR GOV'T. SALES POC: John Haney (1 800) 241-2792

Vendor Address: Connective Solutions
 P.O. Box 333
 Quaker Hill, CT 06375

| DESCRIPTION | MIL-SPEC or CID P/N | VENDOR P/N |
|---|------------------------|---------------|
| Commercial Item Descriptions: | | |
| Furcation Units, Tube, blown optical fiber (BOF) 2-18 fibers | A-A-59729 | TFUxx-y.ySR* |
| Plug, Tapered Tube, BOF, 6-fiber bundle or up to 8 fibers, 8mm | A-A-59730-TTP-2 | TTP06-2.0R |
| Plug, Tapered Tube, BOF, 12- or 18- fiber bundles or 9 to 12 fibers BOF, 8mm | A-A-59730-TTP-3 | TTP06-3.0R |
| | | |
| Approved Commercial Components: | | |
| Plug, Tapered Tube, BOF, up to 12 fibers, 5mm | N/A | TTP03-2.0R |

* xx = strand count (2 to 18)

y.y = fanout length in meters (1 to 40)

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 25 September 2008

ITEM: Optical Fiber [TOP](#)

MIL-SPEC: MIL-PRF-49291

VENDOR: Corning Incorporated (<http://www.corningfiber.com/>)

VENDOR GOV'T SALES POC: Sharon Bois (607) 974-7758, FAX: (607) 974-4829

Vendor Address: Corning Incorporated
 One Riverfront Plaza
 MP HQ 02-W29
 Corning, NY 14831

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|----------------------------------|-----------------|---|
| Qualified QPL Components: | | |
| Optical fiber, multimode | M49291/6-03 | LNF™ 62.5/125umCPC6; 3.0/0.7; 160/500; 100kpsi |
| Optical fiber, single mode | M49291/7-01 | SMF28™ CPC6; 0.4/0.3; 100kpsi |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 08 December 2021

ITEM: Multiterminus (MT) Heavy Duty Connector, Termini, ST Connectors [TOP](#)

MIL-SPEC: MIL-PRF-28876, MIL-PRF-29504, MIL-C-83522

VENDOR: Aptiv Services (formerly Delphi Connection Systems, formerly Packard-Hughes Interconnect)
(<https://www.aptiv.com>)

VENDOR GOV'T SALES POC: Eric Smoll (eric.j.smoll@aptiv.com)

Vendor Address: Aptiv Services 3 US, LLC
30 Corporate Park Ste 303
Irvine, CA 92606

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|------------------------------|-----------------|
| Qualified QPL Components: | | |
| Termini, pin, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/14-4131C | M29504/14-4131C |
| Termini, pin, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/14-4141C | M29504/14-4141C |
| Termini, socket, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/15-4171C | M29504/15-4171C |
| Termini, socket, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/15-4181C | M29504/15-4181C |
| Termini, dummy, for MIL-PRF-28876 connectors | M29504/3-4038 | M29504/3-4038 |
| Connector, four termini, receptacle, wall mount, with insert retention nut | M28876/1B1S1 | M28876/1B1S1 |
| Connector, eight termini, receptacle, wall mount, with insert retention nut | M28876/1C1S1 | M28876/1C1S1 |
| Connector, four termini, plug, no strain relief, with insert retention nut | M28876/6B1P1 | M28876/6B1P1 |
| Connector, eight termini, plug, no strain relief, with insert retention nut | M28876/6C1P1 | M28876/6C1P1 |
| Connector, four termini, plug, no strain relief, no insert retention nut | M28876/6B1P1N | M28876/6B1P1N |
| Connector, eight termini, plug, no strain relief, no insert retention nut | M28876/6C1P1N | M28876/6C1P1N |
| Connector, four termini, plug, straight backshell with strain relief for four fiber cable | M28876/7B12P1 | M28876/7B12P1 |
| Connector, eight termini, plug, straight backshell with strain relief for eight fiber cable | M28876/7C11P1 | M28876/7C11P1 |
| Connector, four termini, plug, 45° backshell with strain relief for four fiber cable | M28876/8B12P1 | M28876/8B12P1 |
| Connector, eight termini, plug, 45° backshell with strain relief for eight fiber cable | M28876/8C11P1 | M28876/8C11P1 |
| Connector, four termini, plug, 90° backshell with strain relief for four fiber cable | M28876/9B12P1 | M28876/9B12P1 |
| Connector, eight termini, plug, 90° backshell with strain relief for eight fiber cable | M28876/9C11P1 | M28876/9C11P1 |
| Connector, four termini, receptacle, jamnut mount, with insert retention nut | M28876/11B1S1 | M28876/11B1S1 |
| Connector, eight termini, receptacle, jamnut mount, with insert retention nut | M28876/11C1S1 | M28876/11C1S1 |
| Connector, eighteen termini, receptacle, wall mount, with insert retention nut | M28876/1F2XSZ ^{1/} | M28876/1F2XSZ |
| Connector, eighteen termini, plug, no strain relief, with insert retention nut | M28876/6F2XPZ ^{1/} | M28876/6F2XPZ |
| Connector, eighteen termini, plug, no strain relief, no insert retention nut | M28876/6F2XPZN ^{1/} | M28876/6F2XPZN |
| Connector, eighteen termini, plug, straight backshell with strain relief for eighteen fiber cable | M28876/7F2XPZ ^{1/} | M28876/7F2XPZ |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|---|-------------------------------|-----------------|
| Qualified QPL Components: | | |
| Connector, eighteen, plug, 45° backshell with strain relief for eighteen fiber cable | M28876/8F2XPZ ^{1/} | M28876/8F2XPZ |
| Connector, eighteen, plug, 90° backshell with strain relief for eighteen fiber cable | M28876/9F2XPZ ^{1/} | M28876/9F2XPZ |
| Connector, eighteen, receptacle, jamnut mount, with insert retention nut | M28876/11F2XSZ ^{1/} | M28876/11F2XSZ |
| Connector, eighteen, receptacle, jamnut mount, no insert retention nut | M28876/11F2XSZN ^{1/} | M28876/11F2XSZN |
| Connector, thirty-one termini, receptacle, wall mount, with insert retention nut | M28876/1F1XSZ ^{1/} | M28876/1F1XSZ |
| Connector, thirty-one termini, plug, no strain relief, with insert retention nut | M28876/6F1XPZ ^{1/} | M28876/6F1XPZ |
| Connector, thirty-one termini, plug, no strain relief, no insert retention nut | M28876/6F1XPZN ^{1/} | M28876/6F1XPZN |
| Connector, thirty-one termini, plug, straight backshell with strain relief for thirty-six fiber cable | M28876/7F1XPZ ^{1/} | M28876/7F1XPZ |
| Connector, thirty-one, plug, 45° backshell with strain relief for thirty-six fiber cable | M28876/8F1XPZ ^{1/} | M28876/8F1XPZ |
| Connector, thirty-one, plug, 90° backshell with strain relief for thirty-six fiber cable | M28876/9F1XPZ ^{1/} | M28876/9F1XPZ |
| Connector, thirty-one, receptacle, jamnut mount, with insert retention nut | M28876/11F1XSZ ^{1/} | M28876/11F1XSZ |
| Connector, thirty-one, receptacle, jamnut mount, with insert retention nut | M28876/11F1XSZN ^{1/} | M28876/11F1XSZN |
| Backshell, straight, split, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable | M28876/27B2 | M28876/27B2 |
| Backshell, 45°, split, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable | M28876/28B2 | M28876/28B2 |
| Backshell, 90°, split, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable | M28876/29B2 | M28876/29B2 |
| ST connector, nonlocking boot, 125 micron, MM | M83522/16-DNX | 1021690-3C |
| ST connector, nonlocking boot, 125 micron, SM/MM | M83522/16-DNY | 1021341 |
| Special Application Components: | | |
| ST connector, QPL, locking boot, 125 micron, MM | M83522/16-ANX | 1021689-3C |
| ST connector, QPL, locking boot, 125 micron, SM/MM | M83522/16-ANY | 1021689 |

^{1/} X = Backshell Designator (1 through 3), Z = Keying Arrangement Designator (1 through 6)

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 19 September 2017

ITEM: Cable, Optical Fiber [TOP](#)

MIL-SPEC: MIL-PRF-85045, MIL-PRF-49291

VENDOR: Draka (<http://www.drakausa.com/>)

VENDOR GOV'T SALES POC: Kevin Hamilton (508) 513-2347, FAX: (774) 235-2031

Vendor Address: Draka
22 Joseph E. Warner Blvd.
North Dighton, MA 02764

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-----------------|----------------------------------|
| Qualified QPL Components: | | |
| Four fiber, thermoset (cross linked), MM, 500 MHz BW, high pressure | M85045/18-01P | S454T-04-62G |
| Eight fiber, thermoset (cross linked), MM, 500 MHz BW, high pressure | M85045/17-01P | S454T-08-62G |
| Four fiber, thermoset (cross linked), SM, 500 MHz BW, high pressure | M85045/18-02P | S454T-04-010N |
| Eight fiber, thermoset (cross linked), SM, 500 MHz BW, high pressure | M85045/17-02P | S454T-08-010N |
| Optical fiber, multimode | M49291/6-03 | 459 |
| Optical fiber, single mode | M49291/7-01 | 269 |
| One fiber, OFCC, MM, 500 MHz BW | M85045/16-01 | S458T-01-62G |
| One fiber, OFCC, SM | M85045/16-02 | S458T-01-010N |
| Approved Commercial Components: | | |
| Conventional cable, 2-fiber, commercial LSZH <u>1/</u> | N/A | LSZH30-02F-62X LSZH25-02R-62X |

1/ Commercial Cable Approved for shipboard usage as follows:

Non-Tactical Application:

- Cable connections within a compartment.
- Cable connections within an equipment or rack.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 17 December 2002

ITEM: Adhesive and Fast Cure Adhesive [TOP](#)

MIL-SPEC: MIL-PRF-24792

VENDOR: Fiber Optics Center, Inc. (FOCI) (<http://www.focenter.com/>)

VENDOR GOV'T. SALES POC: Barry Siroka (617) 916-1550, FAX: (603) 452-7960

Vendor Address: Fiber Optics Center, Inc.
23 Centre Street
New Bedford, MA 02740-6322

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|---|-----------------|---------------|
| First Article Approved Material: | | |
| Epoxy, two part, fiber optic, heat cured, 6 bipacks <u>1/</u> | M24792-A | AB-9112 |
| Approved Commercial Components: | | |
| Fast Cure Adhesive, Fiber Optic <u>2/ 3/</u> | N/A | AB-202 |

1/ Each bipack contains a pre-measured quantity of resin and hardener separated by a divider.

Expiration date upon ship date: 9 months minimum.

2/ Adhesive: Expiration date upon ship date, both adhesive and primer: 6 months minimum.

3/ Fast Cure Adhesive Approved for shipboard usage as follows: **Fast cure adhesive is authorized only for administrative applications and is not authorized for use in tactical or mission critical applications.**

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 03 December 2018

ITEM: ST Connectors, ST Connector Adapters, Multiterminus (MT) Heavy Duty Connector [TOP](#)

MIL-SPEC: MIL-PRF-83522, MIL-PRF-29504, MIL-PRF-28876

CID: A-A-59940

VENDOR: Fiber Systems International, Inc. (Amphenol) (<http://www.fibersystems.com/>)

VENDOR GOV'T. SALES POC: Alan Sherman (214) 547-2477

Email: asherman@fibersystems.com

Vendor Address: Amphenol Fiber Systems International
1300 Central Expressway North
Allen, TX 75013

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|---|-----------------|---------------------|
| Qualified QPL Components: | | |
| ST connector, nonlocking boot, 125 micron, MM | M83522/16-DNX | MSTC1000 |
| ST connector, nonlocking boot, 125 micron, SM | M83522/16-DNY | MSTC2000 |
| ST to ST adapter, SM | M83522/17-NY | MSTA2000 |
| Termini, pin, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/14-4131C | M29504/14- 4131C |
| Termini, pin, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/14-4141C | M29504/14- 4141C |
| Termini, socket, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/15-4171C | M29504/15- 4171C |
| Termini, socket, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/15-4181C | M29504/15- 4181C |
| Termini, dummy, for MIL-PRF-28876 connectors | M29504/3-4038 | M29504/3-4038 |
| Connector, four termini, receptacle, wall mount, with insert retention nut | M28876/1B1S1 | M28876/1-B1S1 |
| Connector, eight termini, receptacle, wall mount, with insert retention nut | M28876/1C1S1 | M28876/1C1S1 |
| Connector, four termini, plug, no strain relief, with insert retention nut | M28876/6B1P1 | M28876/6B1P1 |
| Connector, eight termini, plug, no strain relief, with insert retention nut | M28876/6C1P1 | M28876/6C1P1 |
| Connector, four termini, plug, no strain relief, no insert retention nut | M28876/6B1P1N | M28876/6B1P1N |
| Connector, eight termini, plug, no strain relief, no insert retention nut | M28876/6C1P1N | M28876/6C1P1N |
| Connector, four termini, plug, straight backshell with strain relief for four fiber cable | M28876/7B12P1 | M28876/7B12P1 |
| Connector, eight termini, plug, straight backshell with strain relief for eight fiber cable | M28876/7C11P1 | M28876/7C11P1 |
| Connector, four termini, plug, 45° backshell with strain relief for four fiber cable | M28876/8B12P1 | M28876/8B12P1 |
| Connector, eight termini, plug, 45° backshell with strain relief for eight fiber cable | M28876/8C11P1 | M28876/8C11P1 |
| Connector, four termini, plug, 90° backshell with strain relief for four fiber cable | M28876/9B12P1 | M28876/9B12P1 |
| Connector, eight termini, plug, 90° backshell with strain relief for eight fiber cable | M28876/9C11P1 | M28876/9C11P1 |
| Connector, four termini, receptacle, jamnut mount, with insert retention nut | M28876/11B1S1 | M28876/11B1S1 |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-----------------------------|----------------------------------|
| Qualified QPL Components: | | |
| Connector, eight termini, receptacle, jamnut mount, with insert retention nut | M28876/11C1S1 | M28876/11C1S1 |
| Connector, eighteen, plug, 45° backshell with strain relief for eighteen fiber cable | M28876/8F2XPZ ^{2/} | M28876/8F2XPZ |
| Connector, eighteen, plug, 90° backshell with strain relief for eighteen fiber cable | M28876/9F2XPZ ^{2/} | M28876/9F2XPZ |
| Backshell, straight, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable | M28876/27B2 | M28876/27B2 |
| Backshell, straight, long length, with strain relief for MIL-PRF-28876/1, /6 and /11 eight termini connectors for eight fiber cable (O.D. range: 0.424 to 0.465 in.) | M28876/27C3 | M28876/27C3 |
| Backshell, 45°, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for Four fiber cable | M28876/28B2 | M28876/28B2 |
| Backshell, 45°, long length, with strain relief for MIL-PRF-28876/1, /6 and /11 eight termini connectors for eight fiber cable (O.D. range: 0.424 to 0.465 in.) | M28876/28C3 | M28876/28C3 |
| Backshell, 90°, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable | M28876/29B2 | M28876/29B2 |
| Backshell, 90°, long length, with strain relief for MIL-PRF-28876/1, /6 and /11 eight termini connectors for eight fiber cable (O.D. range: 0.424 to 0.465 in.) | M28876/29C3 | M28876/29C3 |
| Commercial Item Description: | | |
| ST connector, ruggedized, 125 micron, MM <u>1/</u> | A-A-59940/3-111SN | MSTC1100 MSTC1110 MSTB1400 |
| ST connector, ruggedized, 125 micron, SM <u>1/</u> | A-A-59940/3-121SN | MSTC2100 MSTB2400 |
| Approved Commercial Components: | | |
| ST to ST adapter, MM <u>1/</u> | N/A | MSTA1300 MSTA1250 |
| ST to ST adapter, SM <u>1/</u> | N/A | MSTA2300 MSTA2200 |
| Approved Termination Kits: | | |
| ST/SC termination kit | 6872811 | FKIT002 |
| Multiterminus (MT) heavy duty connector termination kit | 6872813 | FKIT001 |
| Submarine Combination ST, SC, and MT Termination Kit | 7085185 | FKIT007 |

1/ Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

Non-Tactical Application:

- Connections in outlet boxes (drop boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

^{2/} X = Backshell Designator (1 through 3), Z = Keying Arrangement Designator (1 through 6)

* Contact Vendor for ordering information

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 11 February 2022

ITEM: Cable, Optical Fiber [TOP](#)

MIL-SPEC: MIL-PRF-85045, MIL-PRF-49291

CID: A-A-59728, A-A-59731

VENDOR: General Cable (Formerly BICC Brand-Rex Company) (<http://www.generalcable.com/>)

VENDOR GOV'T SALES POC: Cedric Lindsay (859) 572-8737, FAX: (859) 572-8470

Vendor Address: General Cable
4 Tesseneer Drive
Highland Heights, KY 41076

| DESCRIPTION | MIL-SPEC or CID P/N | VENDOR P/N |
|--|------------------------|----------------------|
| Qualified QPL Components: | | |
| One fiber, OFCC, MM, 500 MHz BW | M85045/16-01 | OC-1468 |
| Four fiber, thermoset (cross linked), MM, 500 MHz BW | M85045/18-01P | OC-1417P |
| Eight fiber, thermoset (cross linked), MM, 500 MHz BW | M85045/17-01P | OC-1434P |
| 36 fiber, thermoset (cross linked), MM | M85045/20-01M | OC-1540 |
| 18 fiber, thermoplastic, MM 500 MHz BW | M85045/22-01 | OC-1680 |
| 90 fiber, thermoset, MM 500 MHz BW | M85045/24-01 | OC-1682 |
| 8 fiber, outboard, MM | M85045/21-01 | OC-1651 |
| 18 fiber, outboard, MM | M85045/23-01 | OC-1681 |
| One fiber, OFCC, SM | M85045/16-02 | OC-1571 |
| Four fiber, thermoset, SM | M85045/18-02P | OC-1578P |
| Eight fiber, thermoset, SM | M85045/17-02P | OC-1462P |
| 18 fiber, thermoplastic, SM | M85045/22-02 | OC-1652 |
| 36 fiber, thermoset, SM | M85045/20-02M | OC-1673 |
| 90 fiber, thermoset, SM | M85045/24-02 | OC-1654 |
| 8 fiber, outboard, SM | M85045/21-02 | OC-1679 |
| 18 fiber, outboard, SM | M85045/23-02 | OC-1653 |
| 7 tube cable, blown optical fiber (BOF) (Black) Enhanced | M85045/25-01E | OC-1598 |
| 7 tube cable, blown optical fiber (BOF) (Light Blue) Enhanced | M85045/25-01E | OC-1715 |
| Single tube cable, blown optical fiber (BOF) (Black) Enhanced | M85045/26-01E | OC-1597 |
| Single tube cable, blown optical fiber (BOF) (Light Blue) Enhanced | M85045/26-01E | OC-1717 |
| 7 tube cable, blown optical fiber (BOF) (Black) Standard | M85045/25-01S | OC-1701 |
| 7 tube cable, blown optical fiber (BOF) (Light Blue) Standard | M85045/25-01S | OC-1716 |
| Single tube cable, blown optical fiber (BOF) (Black) Standard | M85045/26-01S | OC-1704 |
| Single tube cable, blown optical fiber (BOF) (Light Blue) Standard | M85045/26-01S | OC-1718 |
| Optical fiber, multimode <u>1/</u> | M49291/6-05BF | OC-062H-BF-XXXX(QPL) |
| Optical fiber, single mode <u>1/</u> | M49291/7-02BF | OC-009S-BF-XXXX(QPL) |
| Commercial Item Description: | | |
| Plug, Tube Fitting, blown optical fiber (BOF) Duct 8mm Connector Plug | A-A-59728-TFP-8 | 77-7231 |
| Tube Fitting, blown optical fiber (BOF) Duct 8mm Straight Connector | A-A-59731-U-8E | 77-7225 |
| Tube Fitting, blown optical fiber (BOF) Duct 8mm Tee Connector | A-A-59731-TS-8E | 77-7229 |
| Tube Fitting, blown optical fiber (BOF) End Cap Coupler | A-A-59731-EC-8E | 705620 |
| Tube Fitting, blown optical fiber (BOF) Duct 5mm Straight Coupler | A-A-59731-U-5E | 77-7224 |
| Tube Fitting, blown optical fiber (BOF) Duct 8mm-5mm Reducer, Straight Coupler | A-A-59731-R-E | 77-7227 |

/a

/a Per qualifying activity - STOP SHIPMENT IN PLACE.
See QPD for latest information.
<https://qpldocs.dla.mil/>



**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

| Approved Commercial Components: | | |
|--|-------------------------|---------|
| Conventional cable, 2-fiber, commercial <u>2/</u> | N/A | OC-1613 |
| Conventional Loose structure cable, 2 fiber 62.5/125 zipcord with 600 micron buffered fiber LSZH (2.0mm) <u>3/</u> | N/A | OC-1731 |
| Conventional Loose structure cable, simplex 62.5/125 with 600 micron buffered fiber LSZH (2.0mm) <u>3/</u> | N/A | OC-1732 |
| Conventional Loose structure cable, 2 fiber 9/125 zipcord with 600 micron buffered fiber LSZH (2.0mm) <u>3/</u> | N/A | OC-1737 |
| Conventional Loose structure cable, simplex 9/125 with 600 micron buffered fiber LSZH (2.0mm) <u>3/</u> | N/A | OC-1736 |
| Single Tube, blown optical fiber (BOF), used for interconnection inside of the tube routing boxes (TRB) (8mm) <u>4/</u> | N/A | 423380 |
| Single Tube, blown optical fiber (BOF), used for interconnection inside of the tube routing boxes (TRB) (5mm) <u>4/</u> | N/A | 423400 |
| Cable, Fiber Optic, 18 Fibers, Enhanced Performance, Configuration Type 2 (OFCC), Application B (Shipboard), Class MM/SM Mixed | NAVSEA Drawing 8479606A | 437970 |

1/ For Blown Optical Fiber (BOF) applications. XXXX indicates blowable coating color

2/ Commercial Cable Approved for shipboard usage as follows:

Non-Tactical Application:

- Cable connections within a compartment.
- Cable connections within an equipment or rack.

3/ Approved for use with the currently approved pull proof style SC and LC connectors.

4/ Subcomponent of Qualified part 85045/25 & /26.

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 24 March 2011

ITEM: Multiterminus (MT) Heavy Duty Connector and Termini [TOP](#)

MIL-SPEC: MIL-PRF-28876, MIL-PRF-29504

VENDOR: Glenair, Inc (<http://www.glenair.com/>)

VENDOR GOV'T. SALES POC: Bea Martin (818) 247-6000

Email: bmartin@glenair.com

Vendor Address: Glenair, Inc.
1211 Air Way
Glendale, CA 91201-2497

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-----------------|---------------|
| Qualified QPL Components: | | |
| Termini, pin, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/14-4131C | 181-039-1260C |
| Termini, socket, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors | M29504/15-4171C | 181-040-1260C |
| Termini, dummy, for MIL-PRF-28876 connectors | M29504/3-4038 | 181-051 |
| Connector, four termini, receptacle, wall mount, with insert retention nut | M28876/1B1S1 | M28876/1B1S1 |
| Connector, eight termini, receptacle, wall mount, with insert retention nut | M28876/1C1S1 | M28876/1C1S1 |
| Connector, four termini, plug, no strain relief, with insert retention nut | M28876/6B1P1 | M28876/6B1P1 |
| Connector, eight termini, plug, no strain relief, with insert retention nut | M28876/6C1P1 | M28876/6C1P1 |
| Connector, four termini, plug, no strain relief, no insert retention nut | M28876/6B1P1N | M28876/6B1P1N |
| Connector, eight termini, plug, no strain relief, no insert retention nut | M28876/6C1P1N | M28876/6C1P1N |
| Connector, four termini, plug, straight backshell with strain relief for four fiber cable | M28876/7B12P1 | M28876/7B12P1 |
| Connector, eight termini, plug, straight backshell with strain relief for eight fiber cable | M28876/7C11P1 | M28876/7C11P1 |
| Connector, four termini, plug, 45° backshell with strain relief for four fiber cable | M28876/8B12P1 | M28876/8B12P1 |
| Connector, eight termini, plug, 45° backshell with strain relief for eight fiber cable | M28876/8C11P1 | M28876/8C11P1 |
| Connector, four termini, plug, 90° backshell with strain relief for four fiber cable | M28876/9B12P1 | M28876/9B12P1 |
| Connector, eight termini, plug, 90° backshell with strain relief for eight fiber cable | M28876/9C11P1 | M28876/9C11P1 |
| Connector, four termini, receptacle, jamnut mount, with insert retention nut | M28876/11B1S1 | M28876/11B1S1 |
| Connector, eight termini, receptacle, jamnut mount, with insert retention nut | M28876/11C1S1 | M28876/11C1S1 |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 26 February 2016

ITEM: Splice, Fusion Shelf and Tray [TOP](#)

VENDOR: Hubbell (<http://ecatalog.hubbell-premise.com/>)

VENDOR GOV'T SALES POC: E.J. McCue (860)608-3984, FAX: (203)783-9230

Vendor Address: Hubbel Premise Wiring
 26B Spithead Road
 Waterford, CT 06385

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-----------------|---------------|
| Approved Commercial Components: | | |
| Splice, Fusion Shelf <u>1/</u> <u>3/</u> | | FSS01A |
| Splice, Fusion Tray, 10" <u>2/</u> <u>3/</u> | | STRAY24MIL |
| Splice, Tray Cover, 10" | | FSS01A10TC |
| Splice, Tray Cover, 7" | | FSS01A7TC |
| | | |
| | | |

1/ A tray cover is required and the cover shall be compatible with splice tray in use.

2/ A 7" splice tray (MIL-24728/8-51) is also available.

3/ Commercial Fusion Splice Shelf and Tray approved for usage as follows: Storage of MIL-24623 Fusion Splices within a "shock isolated" equipment or rack".

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 15 March 2019

ITEM: Interconnection Box, Fusion Splice Protector, BOF Tube Furcation Unit, Termination Kits

TOP

MIL-SPEC: MIL-I-24728, MIL-PRF-24623; CID: A-A-59729

VENDOR: KitCo (<http://www.kitcofo.com/>)

VENDOR GOV'T. SALES POC: Dan Morris (757) 216-2220, FAX: (757) 518-9700

Vendor Address: KitCo
5269 Cleveland St.
Virginia Beach, VA 23462

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|---|----------------------------------|---------------|
| Qualified QPL Components: | | |
| Fusion splice tray – for use in 24728/8-50 | M24728/8-051 | 0732-1106 |
| Fusion splice protector | M24623/6-1 | 0703-3775 |
| Commercial Item Descriptions: | | |
| | NAVSEA DWG Or CID P/N | |
| Furcation Units, Tube, blown optical fiber (BOF) 12 fibers | A-A-59729 | 0705-8040 |
| Furcation Units, Tube, blown optical fiber (BOF) 4 fibers | A-A-59729 | 0705-8120 |
| Furcation Units, Tube, blown optical fiber (BOF) 8 fibers | A-A-59729 | 0705-8130 |
| Approved Termination Kits: | | |
| ST/SC termination kit | 6872811 | 0800-8010 |
| Multiterminus (MT) heavy duty connector termination kit | 6872813 | 0801-8000 |
| MIL-S-24623/4 rotary mechanical splice termination kit | 6872812 | 0801-8020 |
| Submarine combination ST, SC & MT kit | 7085185 | 0801-8030 |
| FDDI connector tool supplement <u>1/</u> | N/A | 0801-8040 |
| SC upgrade kit <u>1/</u> <u>2/</u> | N/A | 0801-8080 |
| Polishing puck, ST & SC connector compatible <u>2/</u> | N/A | 0700-1750 |
| Damage Control Kit, Optical Fiber, Naval Shipboard | 7344573 | 0701-8000 |
| Approved Commercial Components: | | |
| Jumper, duplex, LSZH, (MM) 100 feet, with 106 812 274 COTS connectors <u>3/</u> | 7344573-14 | 0705-8012 |
| Jumper, duplex, LSZH, (SM) 100 feet, with 106 812 258 COTS connectors <u>3/</u> | 7344573-15 | 0705-8015 |

1/ Must be used with ST connector termination kit.

2/ Only necessary for ST termination kits procured before September 1997.

3/ Only used with Damage Control Kit

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 July 2001

ITEM: Transmitter and Receiver [TOP](#)

MIL-SPEC: MIL-M-24791

VENDOR: Laser Diode, Inc. (<http://www.laserdiode.com/>)

VENDOR GOV'T. SALES POC: Ken Miller (908) 549-9001, FAX (908) 906-1559

Vendor Address: Laser Diode, Inc.
 4 Olden Avenue
 Edison, NJ 08820

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|---|-----------------|---------------|
| First Article Approved Components: | | |
| Transmitter, 1300 nm, LED, 16 pin DIP, MM pigtail, 125 Megabits, high power | M24791/1-HP | TS 2143C |
| Receiver, long wavelength digital, 16 pin DIP, MM pigtail, 125 Megabits, high sensitivity | M24791/2-HS | RT 2714C |
| Receiver, long wavelength digital, 16 pin DIP, MM pigtail, 125 Megabits, low sensitivity | M24791/2-LS | RT 2714C |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 July 2001

ITEM: Switch [TOP](#)

MIL-SPEC: MIL-S-24725

VENDOR: Litton Network Access Systems (<http://www.litton-ps.com/>)

VENDOR GOV'T SALES POC: Jay Muscatello (540) 552-3011 X230

Vendor Address: Litton Network Access Systems
1213 North Main Street
Blacksburg, VA 24060

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-----------------|---------------------|
| Following Components Are Not Qualified To Date: | | |
| Switch, hard mounted, electrical, nonlatching, MM cable, 2x2 bypass, optical pigtailed entering on opposing sides. | M24725/1-01T | FO4663R-B300-100C-N |
| Switch, hard mounted, electrical, nonlatching, MM cable, 2 x 2 bypass, optical pigtailed entering on one side. | M24725/1-01S | N/A* |
| Switch, non-hard mounted, electrical, nonlatching, MM cable, 2 x 2 bypass, optical pigtailed entering on opposing sides. | M24725/2-01T | FO4663R-B300-100C-N |
| Switch, non-hard mounted, electrical, nonlatching, MM cable, 2 x 2 bypass, optical pigtailed entering on one side. | M24725/2-01S | N/A* |

* Not applicable

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 06 August 2020

ITEM: Cable, Optical Fiber [TOP](#)

MIL-SPEC: MIL-PRF-85045

VENDOR: Marmon Aerospace & Defense LLC (<http://www.marmon-ad.com/>)

VENDOR GOV'T SALES POC: Janice Welch (603) 518-1721, FAX: (800) 639-5701

Vendor Address: Marmon Aerospace & Defense LLC

680 Hayward St

Manchester, NH 03103-4420

| DESCRIPTION | MIL-SPEC or CID P/N | VENDOR P/N |
|---|------------------------|----------------|
| Qualified QPL Components: | | |
| Eight fiber, thermoset (cross linked), MM, 500 MHz BW | M85045/17-01P | AD85045/17-01P |
| One fiber, OFCC, MM, 500 MHz BW | M85045/16-01 | AD85045/16-01 |
| Four fiber, thermoset (cross linked), MM, 500 MHz BW | M85045/18-01P | AD85045/18-01P |

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 July 2001

ITEM: Index Matching Material [TOP](#)

MIL-SPEC: MIL-PRF-24794

VENDOR: Nye Lubricants, Inc. (<http://www.nyeoptical.com/>)

VENDOR GOV'T SALES POC: Paul Bessette (508) 996-6721, FAX: (508) 997-5285

Vendor Address: Nye Lubricants, Inc.
12 Howland Rd.
Fairhaven, MA 02719

ALTERNATE SOURCE: Jay Weikel (704) 587-9447, FAX: (704) 587-9566

Source Address: Nye Lubricants, Inc. - Southeast Engineering Office
10660 York Road, Suite 9
Charlotte, NC 28273

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-----------------|---------------------------|
| First Article Approved Material: | | |
| Index matching material, fiber optic, one part, 1 cc syringe* | M24794-1 | OC-432/1 cc syringe |
| Index matching material, fiber optic, one part, 10 cc syringe* | M24794-1 | OC-432/10 cc syringe |
| Index matching material, fiber optic, one part, 2 ounce glass jar* | M24794-1 | OC-432/2 ounce glass jar |
| Index matching material, fiber optic, one part, 6 ounce Semco cartridge* | M24794-1 | OC-432/6 Semco cartridges |

*Two-year shelf life specified from date of shipment. Shelf life is indefinite if stored properly. There is no active ingredient in the index matching material to cause deterioration. Material can be returned to Nye Lubricants, Inc. to be re-qualified if shelf life is exceeded.

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 13 August 2015

ITEM: ST, SC and LC Connectors; Epoxy; Fast Cure Adhesive [TOP](#)

MIL-SPEC: MIL-PRF-24792

CID: A-A-59940

VENDOR: OFS Optics (<http://www.ofsoptics.com/>)

VENDOR GOV'T. SALES POC: Jim Ford (770) 838-5215, FAX: (770) 838-5442

Email: jford@ofsoptics.com

Vendor Address: OFS Optics
1 Brightwave Blvd
Carrollton, GA 30117

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-------------------|--|
| First Article Approved Material: | | |
| Epoxy, two part, fiber optic, heat cured, 15 bipacks <u>1/</u> | M24792-A | 105 489 355 |
| Commercial Item Description: | CID P/N | |
| ST connector, 125 micron, MM <u>5/</u> | A-A-59940/3-111SN | 106 812 274 |
| ST connector, 125 micron, SM <u>5/</u> | A-A-59940/3-121SN | 106 812 258 |
| LC connector, 125 micron, MM, simplex jumper connector, pull proof <u>5/ 6/ 7/ 8/ 9/ 10/</u> | A-A-59940/1-111SP | 108 064 445 |
| LC connector, 125 micron, SM, simplex jumper connector, pull proof <u>5/ 6/ 7/ 8/ 9/ 10/</u> | A-A-59940/1-121SP | 109 154 559 |
| LC connector, 125 micron, MM, duplex jumper connector, pull proof <u>5/ 6/ 7/ 8/ 9/ 10/</u> | A-A-59940/1-111DP | 108 138 678 |
| LC connector, 125 micron, SM, duplex jumper connector, pull proof <u>5/ 6/ 7/ 8/ 9/ 10/</u> | A-A-59940/1-121DP | 108 137 605 |
| Approved Commercial Components: | | |
| Fast cure adhesive, fiber optic <u>3/ 4/</u> | N/A | Adhesive: 106 730 856 Primer: 106 730 849 |
| ST to ST, adapter, MM <u>5/</u> | N/A | 104 148 028 |
| ST to ST, adapter, SM <u>5/</u> | N/A | 105 271 142 |
| LC-to-LC adapter, MM, duplex adapter, plastic alignment sleeve <u>5/</u> | | 108 072 497 |
| LC-to-LC adapter, SM, duplex adapter, ceramic alignment sleeve <u>5/</u> | | 108 072 489 |

- 1/ Each bipack contains a pre-measured quantity of resin and hardener separated by a divider. There is 8 gm of resin and hardener per bipack. Expiration date upon ship date: 9 months minimum.
- 3/ Fast Cure Adhesive Approved for shipboard usage as follows: **Fast cure adhesive is authorized only for administrative applications and is not authorized for use in tactical or mission critical applications.**
- 4/ Adhesive: Quantity of one 10 ml bottle. Primer: Quantity of one 1 oz bottle. Expiration date upon ship date, both adhesive and primer: 6 months minimum.
- 5/ Commercial Connectors Approved for shipboard usage as follows:
Tactical Application:
 - Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
 - Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

6/ zirconia ferrule, 1.5 & 2 mm cables

7/ LC connectors are pull proof connectors designed for loose structured cables. However, with proper care and workmanship these connectors can be installed on tight structured cables.

8/ Two configurations for LC connector. LC connector is provided in both pull proof and non pull proof configurations (but OFS only provides the pull proof configuration). The standard commercial configuration is the pull proof one. A pull proof connector is designed to be used with a loose tube cable. In a pull proof configuration, there is no optical discontinuity at the mating connector end faces when the cabling affixed to one of the connectors is pulled. The non pull proof LC connector is constructed similar to an ST connector and designed to be used with either loose tube or tight buffer cabling. The spring compresses as the cabling exiting the connector is pulled. This compression removes the ferrule from the mating connector end face. The result is a discontinuous optical path (optical discontinuity) for the duration of the pulled cable.

CAUTION

For pull proof connectors, do not completely backfill an LC connector when terminating to tight buffer cabling. A complete backfill of epoxy can result a locked spring (inability of plunger feature to function) and/or bonded fiber (inability of fiber to push back in the tube/jacket).

9/ Termination precautions, pull proof connector with tight buffer cabling. A pull proof connector can be placed (terminated) onto tight buffer cabling following a slightly modified (really more careful or precise fill during the) epoxy injection process. The key is not to completely backfill the connector barrel cavity. The syringe tip used aids to control this fill. Instead of a dispensing (syringe) tip, twist on, 20 gage, 1 inch long, blunt end, for epoxy injection into all connector types except SC and LC; a dispensing tip, twist on, 18 gage, 0.5 inch long, chamfered end, for epoxy injection into SC and LC connectors is used. The syringe tip is inserted completely (as in standard process). Care must be taken to completely fill the "cone" (front) portion of the cavity, but do not complete the backfill. The SC and LC connectors have a lip internal to the barrel cavity. An 18 gage syringe tip can be inserted only to this lip. When using proper syringe tip, this restricted insertion allows an epoxy fill up to the lip (filling the front cone or chamfered area) and into/through the ferrule hole. Pressure on the syringe plunger is applied until an epoxy bead appears on the ferrule end face. The correct volume of epoxy is injected once the epoxy bead appears. Withdraw the syringe tip without further injection of epoxy (i.e., without further pressure applied to the syringe plunger).

10/ Application affect pull proof connector failure rates. Backfilling of epoxy in a pull proof connector further restricts the degree of fiber flexing. When two connectors are mated through an adapter (such as a LC-to-LC adapter), the plunging movement in each connector is halved. This results in the fiber needing to flex to a lesser degree in the back end of each connector. At a fixed interface (such as at a network interface card or NIC), the connector plunges back further. This results in the fiber needing to flex more. When the termination is not done properly (see note 9/), fiber breakage at the back of the connector can occur. A higher failure rate is more likely at a fixed interface. Also, improperly terminated connectors may fail after surviving the first few times mated.

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 18 December 2012

ITEM: ST Connectors, Commercial Cable [TOP](#)

MIL-SPEC: MIL-C-83522

VENDOR: Optical Cable Corporation (OCC) (<http://www.occfiber.com/>)

VENDOR GOV'T. SALES POC: (800) 622-7711, FAX: (540) 265-0724

Vendor Address: Optical Cable Corporation
5290 Concourse Drive
PO Box 11967
Roanoke, VA 24022-1967

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|-----------------|------------------------------------|
| Qualified QPL Components: | | |
| ST to ST adapter, 125 micron, SM/MM <u>1/</u> | M83522/17-NY | M83522/17-NY-S M83522/17-NY-B |
| ST connector, nonlocking boot, 125 micron, MM <u>1/</u> | M83522/16-DNX | M83522/16-DNX-S M83522/16-DNX-B |
| ST connector, nonlocking boot, 125 micron, SM/MM <u>1/</u> | M83522/16-DNY | M83522/16-DNY-S M83522/16/DNY-B |
| Special Application Components: | | |
| ST connector, QPL, locking boot, 125 micron, MM | M83522/16-ANX | M83522/16-ANX-B |
| ST connector, QPL, locking boot, 125 micron, SM/MM | M83522/16-ANY | M83622/16-ANY-B |
| Approved Commercial Components: | | |
| Conventional cable, commercial LSZH <u>2/</u> | N/A | AC002ZWLS90Z |

1/ Components constructed using stainless steel (-S) or nickel plated brass (-B) material.

2/ Commercial Cable Approved for shipboard usage as follows:

Non-Tactical Application:

- Cable connections within a compartment.
- Cable connections within an equipment or rack.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 02 December 2019

ITEM: Tube Fittings, Plug, Tube Fitting BOF [TOP](#)

CID: A-A-59731, A-A-59728

VENDOR: SMC (<http://www.smcusa.com/>)

VENDOR GOV'T. SALES POC: David Smith (804) 527-0500, FAX: (804) 527-2100

Vendor Address: SMC Corporation of America
4701 Cox Road, Suite 105
Glen Allen, VA 23060

| DESCRIPTION | CID P/N | VENDOR P/N |
|--------------------------------------|-----------------|------------|
| Commercial Item Descriptions: | | |
| Tube Fitting, BOF – straight coupler | A-A-59731-U-8E | KRH08-00 |
| | | KQH08-00 |
| | | KQ2H08-00 |
| Tube Fitting, BOF – straight coupler | A-A-59731-U-5 | KQ2H05-00 |
| Tube Fitting, BOF - Tee coupler | A-A-59731-T-8E | KRT08-00 |
| | | KQT08-00 |
| | | KQ2T08-00 |
| End cap coupler | A-A-59731-EC-8E | KQ2C08-00 |
| Plug, Tube Fitting, BOF | A-A-59728-TFP-8 | KRP-08 |

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 27 September 2016

ITEM: ST Connector [TOP](#)

CID: A-A-59940

VENDOR: STRAN Technologies (<http://www.strantech.com/>)

VENDOR GOV'T. SALES POC: Bob Rubino (203) 729-2572, FAX: (203) 729-2689

Email: brubino@strantech.com

Vendor Address: STRAN Technologies
39 Great Hill Road
Naugatuck, CT 06770-0222

| DESCRIPTION | CID P/N | VENDOR P/N |
|--|-------------------|---------------|
| Commercial Item Description: | | |
| ST connector, commercial-ruggedized, nonlocking boot, 125 um, MM <u>1/</u> | A-A-59940/3-111SN | 900-0328-02 |
| ST connector, commercial-ruggedized, nonlocking boot, 125 um, SM <u>1/</u> | A-A-59940/3-121SN | 900-0328-01 |
| Approved Commercial Components: | | |
| ST-to-ST adapter, commercial, Multimode <u>1/</u> | N/A | 900-0329 |
| ST-to-ST adapter, commercial, Single mode <u>1/</u> | N/A | 900-0329 |

1/ Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 15 December 2016

ITEM: Interconnection Box, Tube Fittings, Tapered Tube Plug BOF, BOF Bundle Cable [TOP](#)

MIL-SPEC: MIL-I-24728, MIL-PRF-85045

VENDOR: Sumitomo (<http://www.sumitomoelectric.com/>)

VENDOR GOV'T. SALES POC: Keith Quistorff (919) 541-8186, FAX: (919) 541-8267

Vendor Address: Sumitomo
78 Alexander Dr.
P.O. Box 13445
Research Triangle Park, NC 27709

| DESCRIPTION | CID P/N | VENDOR P/N |
|---|-----------------|-----------------|
| Commercial Item Descriptions: | | |
| Plug, Tapered Tube, BOF, 6-fiber bundle or up to 8 fibers, 8mm | A-A-59730-TTP-2 | FT2MFB |
| Tapered Tube Plug, BOF, 12- or 18- fiber bundles or 9 to 12 fibers BOF, 8mm | A-A-59730-TTP-3 | FT3MFB |
| Tube fitting, BOF: Straight coupler | A-A-59731- U-8E | DE08MC2 |
| Tube fitting, BOF, Tee coupler | A-A-59731-T-8E | DE08MT |
| Tube fitting, BOF, End cap coupler | A-A-59731-EC-8E | DE08MA |
| Type-Q101-CA Splicing Kit Contents: | A-A-59799-A | Type Q101-KIT-G |
| 1 ea – Type Q101-CA Quantum Splicer | | |
| 1 ea – Fiber Cleaver w/Scrap Catcher | | FC-6RM |
| 1 ea – AC Cord/Adapter PC-Q101/TQ101 | | ADC1240 |
| 1 pr – Spare Electrode | | ER-10 |
| 1 ea – Operation Manual | | |
| 1 ea – Transit Case | | |
| Type-39 Splicing Kit Contents: | A-A-59799-A | Type-39-KIT-G |
| 1 ea - Type-39 Fusion Splicer | | |
| 1 ea - Fiber Cleaver w/Scrap Catcher | | FC-6M-C |
| 1 ea - AC Cord | | PC-AC2 |
| 1 pr - Spare Electrodes | | ER-10 |
| 1 ea - Operation Manual | | |
| 1 ea - Transit Case | | |
| 1 ea - Adapter/Battery Charger | | |
| Approved Commercial Components: | | |
| Single Tube, blown optical fiber (BOF), used for inter-connection inside of the tube routing boxes (TRB) (8mm) 1/ | N/A | TC01NAL |

1/ Subcomponent of Qualified part 85045/25 & /26.

NOTE: This Fusion Splice Kit is not approved for Organizational Level Shipboard Maintenance & Repair.

NOTE: COTS splicing unit contains a coin size lithium battery.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 July 2001

ITEM: Epoxy, Heat Cured [TOP](#)

MIL-SPEC: MIL-A-24792

VENDOR: Tra-Con, Inc. (<http://www.tra-con.com/>)

VENDOR GOV'T. SALES POC: Amy Nelson (781) 275-6363 X1111

Vendor Address: Tra-Con, Inc.
Resin Systems Division
55 North Street
Medford, MA 02155

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|---|-----------------|---------------|
| First Article Approved Material: | | |
| Epoxy, two part, fiber optic, room/heat cured, quantity: 1 packet, 2 gm bipax * | M24792-A | BA-F112 |
| Epoxy, two part, fiber optic, room/heat cured, quantity: 1 packet, 7 gm bipax * | M24792-A | BB- F112 |
| Epoxy, two part, fiber optic, room/heat cured, quantity: 1 packet, 28 gm bipax * | M24792-A | BC- F112 |
| Epoxy, two part, fiber optic, room/heat cured, quantity: six -1 gm packets (minipaxs) on a strip * | M24792-A | BY- F112 |

- * Each bipax contains a pre-measured quantity of resin and hardener separated by a divider.
F112 has a 9-month shelf life from date of shipment.

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 06 August 2020

ITEM: Commercial SC and LC Connectors [TOP](#)

CID: A-A-55917, A-A-59940

VENDOR: TE Connectivity (Tyco Electronics) (<http://www.amp.com/>)

VENDOR GOV'T. SALES POC: Contact the local Tyco commercial products representative or distributor

Vendor Address: TE Connectivity
PO Box 3608
Harrisburg, PA 17105-3608

| DESCRIPTION | MIL SPEC OR CID P/N | VENDOR P/N |
|--|------------------------|-----------------------|
| Commercial Item Descriptions: | | |
| Simplex SC connector, commercial, Multimode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/2-111SN | 6828099-1 |
| Simplex SC connector, commercial, Single Mode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/2-121SN | 6828100-1 |
| Duplex SC connector, commercial, Multimode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/2-111DN | 1828574-1 |
| Duplex SC connector, commercial, Single Mode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/2-121DN | 1828573-1 |
| Simplex SC connector, commercial, Multimode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/2-111SN | 6828099-1 |
| Simplex LC connector, 125 micron, MM, simplex jumper connector, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/1-111SN | 6828094-1 (GEN I) |
| Simplex LC connector, 125 micron, SM, simplex jumper connector, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/1-121SN | 6828095-1 (GEN I) |
| Duplex LC, connector, 125 micron, MM, duplex jumper connector, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/1-111DN | 6828129-1 (GEN I) |
| Duplex LC, connector, 125 micron, SM, duplex jumper connector, non-pull proof <u>1/ 3/ 6/</u> | A-A-59940/1-121DN | 6828130-1 (GEN I) |
| Simplex ST connector, quick connect, commercial, Multimode <u>4/ 5/</u> | A-A-59940/3-311SN | 2064757-1 |
| Duplex LC connector, commercial, MM, for 1.6-2.0mm, non-pull proof <u>1/ 3/ 6/ 10/ 11/</u> | : A-A 59940/1-111DN | 2123524-1 (GEN II) |
| Duplex LC connector, commercial, SM, for 1.6-2.0mm, non-pull proof <u>1/ 3/ 6/ 10/ 11/</u> | A-A 59940/1-121DN | 2123524-2 (GEN II) |
| Simplex LC connector, commercial, MM, for 1.6-2.0mm, non-pull proof <u>1/ 3/ 6/ 10/ 11/</u> | A-A 59940/1-111SN | 2123265-1 (GEN II) |
| Simplex LC connector, commercial, SM, for 1.6-2.0mm, non-pull proof <u>1/ 3/ 6/ 10/ 11/</u> | A-A 59940/1-121SN | 2123265-2 (GEN II) |
| Approved Commercial Components: | | |
| Simplex SC to SC adapters, commercial, pull proof 2/ | N/A | 1-5502632-0 |
| TMS-SCE-1/2-2.0-9 heat shrink marker | N/A | 5061850001 |
| Sealant tape for use with blown fibers IAW MIL-STD-2042-2 (equivalent to Raychem SFTS-1) | N/A | S1278-01 |

1/ SC/LC connectors are not for use with patch panels except as noted below. Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

- Mate with equipment and patch panels mounted to the interior of “shock isolated” cabinets.

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

2/ SC connectors are pull proof connectors designed for loose structured cables. However, with proper care and workmanship these connectors can be installed on tight structured cables.

3/ SC/LC connectors are non pull proof connectors designed for loose and tight structured cables.

4/ Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of “shock isolated” cabinets.

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

5/ ST LightCrimp PLUS toolkit (2064764-1) is required for Navy termination (includes precision cleaver, cable clamp, and 3 position strip tool).

6/ Two configurations for LC and SC connectors. LC and SC connectors are provided in both pull proof and non pull proof configurations. The standard commercial configuration is the pull proof one. A pull proof connector is designed to be used with a loose tube cable. In a pull proof configuration, there is no optical discontinuity at the mating connector end faces when the cabling affixed to one of the connectors is pulled. The non pull proof LC and SC connectors are constructed similar to an ST connector and designed to be used with either loose tube or tight buffer cabling. The spring compresses as the cabling exiting the connector is pulled. This compression removes the ferrule from the mating connector end face. The result is a discontinuous optical path (optical discontinuity) for the duration of the pulled cable.

CAUTION

For pull proof connectors, do not completely backfill an LC or SC connector when terminating to tight buffer cabling. A complete backfill of epoxy can result a locked spring (inability of plunger feature to function) and/or bonded fiber (inability of fiber to push back in the tube/jacket).

7/ Termination precautions, pull proof connector with tight buffer cabling. A pull proof connector can be placed (terminated) onto tight buffer cabling following a slightly modified (really more careful or precise fill during the) epoxy injection process. The key is not to completely backfill the connector barrel cavity. The syringe tip used aids to control this fill. Instead of a dispensing (syringe) tip, twist on, 20 gage, 1 inch long, blunt end, for epoxy injection into all connector types except SC and LC; a dispensing tip, twist on, 18 gage, 0.5 inch long, chamfered end, for epoxy injection into SC and LC connectors is used. The syringe tip is inserted completely (as in standard process). Care must be taken to completely fill the “cone” (front) portion of the cavity, but do not complete the backfill. The SC and LC connectors have a lip internal to the barrel cavity. An 18 gage syringe tip can be inserted only to this lip. When using proper syringe tip, this restricted insertion allows an epoxy fill up to the lip (filling the front cone or chamfered area) and into/through the ferrule hole. Pressure on the syringe plunger is applied until an epoxy bead appears on the ferrule end face. The correct

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

volume of epoxy is injected once the epoxy bead appears. Withdraw the syringe tip without further injection of epoxy (i.e., without further pressure applied to the syringe plunger).

- 8/ Application affects pull proof connector failure rates. Backfilling of epoxy in a pull proof connector further restricts the degree of fiber flexing. When two connectors are mated through an adapter (such as a LC-to-LC adapter), the plunging movement in each connector is halved. This results in the fiber needing to flex to a lesser degree in the back end of each connector. At a fixed interface (such as at a network interface card or NIC), the connector plunges back further. This results in the fiber needing to flex more. When the termination is not done properly (see note 7/), fiber breakage at the back of the connector can occur. A higher failure rate is more likely at a fixed interface. Also, improperly terminated connectors may fail after surviving the first few times mated.
- 9/ Deleted.
- 10/ For LC Gen II, strip template shall be per manufacturer instructions.
- 11/ LC exceeds max length requirement of 55mm per CID A-A 59940/1. Length from tip of ferrule to rear of boot is 56.3mm.

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Last update: 29 October 2021

ITEM: Interconnection Box [TOP](#)

MIL-SPEC: MIL-I-24728

VENDOR: US Pioneer (formerly NMP Corp.) (<http://www.uspioneer.net/>)

VENDOR GOV'T SALES POC: Les Lapidus (918) 252-0481, FAX: (918) 252-0486

Vendor Address: US Pioneer Inc.
P.O. Box 472065
4450 S. 70th E. Avenue
Tulsa, OK 74147-2965

| DESCRIPTION | MIL-SPEC P/N | VENDOR P/N |
|--|--------------------------------|---------------|
| Qualified QPL Components: | | |
| Box, sized for one 48 adapter patch panel, with cable entrance | M24728/1-005 | 11401-101 |
| Box, sized for one 48 adapter patch panel, without cable entrance | M24728/1-006 | 11401-104 |
| Box, sized for two 48 adapter patch panels, with cable entrance | M24728/2-005 | 10913-101 |
| Box, sized for two 48 adapter patch panels, without cable entrance | M24728/2-006 | 10913-104 |
| Box, sized for three 48 adapter patch panels, with cable entrances | M24728/3-001 | 11112-101 |
| Box, sized for three 48 adapter patch panels, without cable entrances | M24728/3-004 | 11112-104 |
| Box, sized for one 8 adapter patch panel, without cable entrance | M24728/4-001 | 11166-101 |
| Box, sized for one 16 adapter patch panel, without cable entrance | M24728/5-001 | 11164-101 |
| 48 adapter patch panel (for ST connectors) | M24728/6-001 | 11254-101 |
| 8 adapter patch panel (for ST connectors) | M24728/4-002 (comes /w box) | 11406-101 |
| 16 adapter patch panel (for ST connectors) | M24728/5-002 (comes w/ box) | 11407-101 |
| Splice tray holder – Mechanical for 24623/4 | M24728/7-001 | 10427-101 |
| Aluminum mounting plate for 48 adapter patch panel / splice tray holder | comes with box | 11210-101 |
| Wedge pack for cable entrance configuration | comes with box | 11228-1 |
| 4 Splice tray holder – for four splice trays (24728/8-51) | M24728/8-050 | 12485-101 |
| Box, sized for cable routing and four 4 or 8 splice tray holders, spray tight, 711.2 x 1371.6 mm | M24728/09-001 | 12619-101 |
| Box, sized for cable routing and four 4 or 8 splice tray holders, spray tight, 711.2 x 1016.0 mm | M24728/10-001 | 12631-101 |
| 8 Splice tray holder – for eight splice trays (24728/8-51) | M24728/11-001 | 12630-101 |

/a Per qualifying activity - STOP SHIPMENT IN PLACE.
See QPD for latest information.
<https://qpldocs.dla.mil/>



**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 19 September 2017

ITEM: Commercial Heat Shrink Marker [TOP](#)

CID:

VENDOR: Brady (<http://www.bradyid.com/>)

VENDOR GOV'T. SALES POC: Contact the local Brady commercial products representative or distributor

Vendor Address: Brady Corporation
6555 W. Good Hope Road
PO Box 571
Milwaukee, WI 53201-0571

| DESCRIPTION | MIL SPEC OR CID P/N | VENDOR P/N |
|--|------------------------|---------------|
| Commercial Item Descriptions: | | |
| Approved Commercial Components: | | |
| Brady B342 series heat shrink labels for use with 2mm cable: 1/8" 1/ | N/A | 3PS-125-2-WT |
| Brady B342 series heat shrink labels for use with 5mm BOF Tube: 1/4" 1/ | N/A | 3PS-250-2-WT |
| Brady B342 series heat shrink labels for use with 8mm BOF Tube: 3/8" 1/ | N/A | 3PS-500-2-WT |
| | | |

1/ For NO Heat Shrink Application: MIL-STD-2042 Method 6H1 compliance, is only applicable to MIL-STD-2042 use. The heat shrink label shall not be shrunk around cable or BOF tubes.